DATA MANAGEMENT

FIELD OF INVENTION

5   THIS INVENTION relates to data management.

It relates particularly to a database of information, to a computer program product for managing the content of a database, to an information management product and to a method of compiling a database.

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SUMMARY OF INVENTION

According to a first aspect of the invention there is provided a database of information relating to a particular topic, the database including a number of

15   portions which each contain information on a particular aspect of the topic, each portion being sub-divided into a number of sub-portions which are each linked to one another in a predetermined sequential arrangement wherein each subsequent sub-portion in the sequential arrangement contains further information on the topic.

The portions of the database may be arranged into sets which are arranged in a predetermined sequential arrangement.

Selected sub-portions of the database, may include primary key expressions which are embedded in the information contained in said sub-portions, each primary key expression being linked to another sub-portion of the database which contains further information relating to the subject matter of the primary key expression.

5   The database may include explanatory notes, with selected sub-portions of the database, including secondary key expressions which are embedded in the information contained in said selected sub-portions and which are each linked to a particular explanatory note. Each explanatory note may include general information relating to the relevant secondary key expression. Each explanatory

10   note may include information such as an amplification of the information; why a statement is made; and may further include a counterpoint to an argument advanced in a particular portion or sub-portion including the secondary key expression.

Selected explanatory notes may include secondary key expressions which are linked to other explanatory notes of the database.

Selected explanatory notes may include primary key expressions which are each linked to a particular sub-portion of the database.

Each sub-portion of each set includes a link to the first sub-portion of at least one portion of a succeeding set.

The database may include default explanatory notes which each contain information in the form of an overview of the information contained in a particular sub-portion of the database. In use, when the particular sub-portion of the database is selected by a user, the default explanatory note is displayed simultaneously with the relevant sub-portion.

According to a second aspect of the invention there is provided a computer program product for managing the content of a database of information relating to a particular topic, wherein the database includes a number of portions which each contain information on a particular aspect of the topic and which are each sub-divided into a number of sub-portions, the computer program product including program instructions for linking the sub-portions of each portion of the database, to one another in a predetermined sequential arrangement wherein each subsequent sub-portion in the sequential arrangement contains further information on the topic.

Selected sub-portions of the database include primary key expressions which are embedded in the information contained in said selected sub-portions, with the computer program product including program instructions for linking each primary key expression to another sub-portion of the database which contains further information relating to the subject matter of the primary key expression.

The database includes explanatory notes and wherein selected sub-portions include secondary key expressions which are embedded in the information

contained in said selected sub-portions, with the computer program product including program instructions for linking each secondary key expression to a particular explanatory note.

The explanatory notes of the database have primary key expressions embedded therein, with the computer program product including program instructions for linking each primary key expression to a predetermined sub-portion of the database.

The explanatory notes of the database have secondary key expressions embedded therein, with the computer program product including program instructions for linking each secondary key expression to another explanatory note.

The database includes default explanatory notes which each contain information in the form of an overview of the information contained in a particular sub-portion of the database, with the computer program product including program instructions for displaying the default explanatory note simultaneously with the relevant sub-portion on a display device.

Portions of the database are arranged in sets which are sequentially arranged, with the computer program product including instructions for linking the sub-portions of each portion of one set, to the first sub-portion of at least one portion of a succeeding set. As such, selected portions of the database may include

tertiary key expressions which can be selected by a user for providing the aforesaid links between each sub-portion of each portion of one set and the first sub-portion of one of the portions of the succeeding set.

The computer program product may be operable to link the portions and sub-portions of the database by means of hypertext links.

The computer program product may include program instructions for recording the address in the database of each sub-portion of the database from which a link using a primary key expression and/or tertiary key expression is achieved.

The computer program may include program instructions for displaying on a display device, title information representing each sub-portion from which a link is obtained via said primary key expressions or tertiary key expressions, so as to provide a user with a record of a conversation path formed by sub-portions of the database which are linked via said primary and tertiary key expressions.

5   The computer program product may include program instructions for recording and displaying title information in each sub-portion which is accessed from another sub-portion via a link using a primary or tertiary key expression, of said other sub-portions. The computer program product may include program instructions for enabling a user to select a particular sub-portion of the database 10   represented by said title information, in a single operation. The Applicant envisages in this regard that the sub-portion may be selected by "clicking" on the relevant title information for the sub-portion, with a computer mouse or other input device, thereby returning the user to the selected sub-portion. It will

5   be appreciated that the sub-portions represented by the title information can be selected in any order.

The computer program product may be executable on a processor which may be linked to any network, including but not limited to a Local Area Network (LAN), Wide Area Network (WAN), intranet, telecommunications network or the
10   Internet and may include a communications component for preparing and sending messages to display devices of processors, cellular telephones etc., in said WAN, LAN, intranet, telecommunications network or the Internet. In a particular embodiment, the computer program product may include program instructions for recording parts of said sub-portions or explanatory notes
15   selected by a user, in a message format such as an e-mail message format and for permitting a user to generate a feedback message commenting on the selected part, which can be sent as an e-mail message to a predetermined site in said WAN, LAN, intranet or the Internet.

The computer program product may include a monitoring component which includes program instructions for recording users' selections of primary, secondary and tertiary key expressions. In use, this enables the usage of the database to be monitored.

According to a third aspect of the invention there is provided an information management product which comprises:

a database component containing information relating to a particular topic, the database component including a number of portions which each contain

information on a particular aspect of the topic and which are each sub-divided into a number of sub-portions; and

a computer program component for managing the content of the database, the computer program component including program instructions for linking the sub-portions of each portion of the database to one another in a predetermined sequential arrangement wherein each subsequent sub-portion in the sequential arrangement contains further information on the topic.

The database component may be substantially equivalent to the database as defined and described in accordance with the first aspect of the invention.

The computer program component may be equivalent to the computer program product as described and defined hereinabove in accordance with the second aspect of the invention.

According to a fourth aspect of the invention there is provided a method of compiling a database of information relating to a particular topic, which includes the steps of:

compiling a number of portions of the database, wherein each portion contains information on a particular aspect of the topic and wherein each portion is sub-divided into a number of sub-portions;

defining primary key expressions in the information contained in selected sub-portions of the database; and

creating user-executable links between each primary key expression and another sub-portion of the database which contains further information relating to the subject matter of the primary key expressions.

According to a fifth aspect of the invention there is provided a method of compiling a database of information relating to a particular topic, which includes the steps of :

compiling a number of portions of the database, wherein each portion contains information on a particular aspect of the topic and wherein each portion is sub-divided into a number of sub-portions; and

linking each of the sub-portions of each portion of the database to one another in a predetermined sequential arrangement wherein each subsequent sub-portion in the sequential arrangement contains further information on the topic.

BRIEF DESCRIPTION OF THE DRAWINGS

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Further features of the invention are described hereinafter by way of a non-limiting example of the invention, with reference to and as illustrated in the accompanying diagrammatic drawings. In the drawings:

10   Figure 1 shows a schematic layout representing the structure of a database in accordance with the invention;

Figure 2 shows a schematic layout of the database of Figure 1, illustrating the manner in which sub-portions of the database are linked by primary key
15   expressions; and

5   Figures 3A to 3H show, in sequence, an example of a conversation path through a database in accordance with the invention.

With reference to Figure 1 of drawings, a database in accordance with the invention, which is referred to as the "forumBook" contains information relating
10   to a particular topic and includes a number of portions 10 which are each sub-divided into a number of sub-portions 12 (also referred to herein as "pages"). The portions are further arranged into a number of sets 14 (or levels "L").

The sub-portions 12 of each portion 10, are also linked to one another in a
15   sequential arrangement wherein each subsequent sub-portion in the sequential arrangement contains further information on the topic. The sub-portions of each portion are thus arranged in a linear progression with provides a user navigating the sub-portions with increasing information on the topic as the user progresses along a linear "path" through the sub-portions.
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It will be appreciated that the information on a particular topic is thus segmented into smaller "packages" which, in the case of the sub-portions 12, are arranged sequentially. The number of sets, portions and sub-portions forming the forumBook will be determined by the compiler of the database. The number of
25   sets, portions and sub-portions used in each case will thus depend on the nature, scope and amount of subject matter to be covered in the database.

The portions 10 of the database are linked to one another via "nodes" as is illustrated in Figure 1.
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As indicated above, the sets, the portions and the sub-portions of the database are compiled by or in collaboration with the compiler of the database. The arrangement of the sets, the portions and the sub-portions of the database thus allows a linear and seamless progression of understanding of the topic similar
35   to the progression when people have a conversation about the topic. The links between the sub-portions of the database can thus be likened to "conversation

5   paths". The manner in which the database can be navigated will be explained in more detail hereinafter.

Selected sub-portions 12 of each portion of the database include primary key expressions which are embedded in the information contained in said sub-

10   portions. The primary key expression in one sub-portion of the database is linked to another sub-portion of the database which contains further information relating to the subject matter of the primary key expression. The sub-portion to which the primary key expression is linked, may be in the same portion or possibly in a different portion of the database. The sub-portion to which a

15   primary key expression is linked may even form part of a portion in a different set of the database. With reference to Figure 2 of the drawings, the manner in which primary key expressions embedded in particular sub-portions 12 of the database are linked to other sub-portions 12 of the database, are illustrated by link indicator lines "WL1"," WL2", "WL3", "WL4" and "WL Last". Hence, the

20   primary key expressions provide a user with a link to other sub-portions in the database which may form part of the same portion, another portion in the same set or any other portion in any other set of the database.

The database includes explanatory notes and selected sub-portions 12 of the

25   database include secondary key expressions which are embedded in the information contained therein and which are linked to the explanatory notes.

With reference to Figure 3A of the drawings, a forumBook screen display 16 is shown. The screen display 16 includes a title 18 of the forumBook and a menu

30   20 containing the titles of eight portions or "dialogue paths" of one set of portions of the database and a glossary engine 22 that can be selected by a user. The database is executable using a Microsoft Internet Explorer operating system.

35   In order to enter the first sub-portion of the first portion which is entitled "Five minute dialogue" the portion is selected from the menu 20 by clicking on the title

5   of the portion. The first sub-portion or page entitled "The foundation of good
     KSM" 28 is then opened on screen display 24 (see Figure 3B). The title of the
     portion, viz. "Five minute dialogue" 26 is displayed at the top of the screen
     together with a number of buttons, viz. "▶", "◀" which will take a user to the
     next and previous sub-portions, respectively. A "search" button, when selected,
10   will cause a search for keywords in the database to be implemented.   A
     "Bookmap" button provides a graphical representation of the database and a
     "Readers forum" button selects a discussion forum attached to each sub-
     portion. Further buttons include "Response", "email", "Print" and "Home". As
     indicated hereinabove, the sequential arrangement of the sub-portions of the
15   database is determined by the compiler of the database.

     The first page of the first portion contains two secondary key expressions, viz.
     "Solid air" and "KSM" which are both underlined for ease of identification. Each
     of the secondary key expressions are linked to an explanatory note which
20   includes information relating to the particular secondary key expressions
     selected. For example, the secondary key expression "KSM" can be selected
     and activated by double clicking on KSM on the screen display. This causes a
     second window 30 to be opened on the screen (see Figure 3C), containing an
     explanatory note including further information relating to the secondary key
25   expression.   Each explanatory note may include an amplication of the
     information such as who or what the information contained in the relevant
     secondary key expression is, why a statement is made, and further may include
     a counterpoint to an argument advanced in a particular sub-portion including the
     relevant secondary key expression. The Applicant also envisages that
30   explanatory notes may also include primary key expressions which are linked to
     predetermined sub-portions of the database. Further, the Applicant envisages
     that explanatory notes may include secondary key expressions which are linked
     to other explanatory notes of the database. In addition, the Applicant envisages
     that the structure of the explanatory notes containing secondary key
35   expressions referring to other explanatory notes, may carry on indefinitely.

5   The window 30 includes prompts 32 which can be selected by a user to allow
     the user to provide a "contention", raise "questions" and provide "comment".
     Upon selecting one of the user prompts a window is opened allowing a user to
     compile an e-mail message containing a "contention", "questions" and/or
     "comments", which can then be sent to a recipient for processing.
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     In order to close the window 30, the "back" prompt 34 can be selected by the
     user. Alternatively, another secondary key expression can be selected to close
     the window 30 and open another window.

15   By clicking the "►" button, the next page (sub-portion) of the first portion of the
     database is displayed on screen display 36 (see Figure 3D). Further, a "◄"
     button is displayed on screen display 36, which when activated allows a user to
     return to the previous page of the first portion.

20   The screen display 36 is entitled "Five minute dialogue" 38, which is the title of
     the first portion. Further, the screen display 36 displays the sub-title "KSM and
     other organisational functions" 40 of the second page of the first portion.

     The page includes two primary key expressions, viz. "Knowledge Management"
25   and "elsewhere" which have been established by the compiler of the database
     and which are linked to another sub-portion of the database which contains
     further information relating to the subject matter of the relevant primary key
     expression. The primary key expressions can be activated by clicking on the
     relevant primary key expression.
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     By clicking on the primary key expression "elsewhere" contained in the text
     displayed on screen display 36, screen display 42 (see Figure 3E) is activated.
     The primary key expression selected on screen display 36 is linked to a sub-
     portion entitled "KSM and the recruitment function" 44 and forming part of the
35   eighth portion of the first set of the database which is entitled "KSM and other
     organisational functions" 46. It will be appreciated that the user has now left the

5   first portion of the first set, entitled "five minute dialogue" and has jumped to the eighth portion entitled "KSM and other organisational functions" of the first set.

       The invention extends to a computer program product for managing the content of the forumBook, which includes program instructions for linking the sub-
10   portions of each portion of the database to one another in a predetermined sequential arrangement as determined by the compiler of the database. The computer program product also includes program instructions for linking each primary key expression in one sub-portion of the database to another sub-portion of the database as described hereinabove. The computer program
15   product further includes program instructions for linking the secondary key expressions to the explanatory notes as described hereinabove.

       In addition, the computer program product includes program instructions for recording the portion and the relevant sub-portion from which a link is obtained
20   to a subsequent sub-portion via a link from a primary key expression. With reference to Figure 3F of the drawings, it can be seen that the title of the portion "five minute dialogue" and of the relevant sub-portion "KSM and other organisational functions", is displayed in a dialogue box 48 near the top of the screen display. The dialogue box 48 thus contains an address of the portion
25   and relevant sub-portion from which a link using a primary key expression, is obtained. In order to return to the relevant sub-portion, a user can merely select the address of the previous sub-portion by clicking on the "address" in the dialogue box 48. The computer program product thus includes program instructions for recording the address of each sub-portion of the database from
30   which a link using a primary key expression is made, and for displaying title information representing the portion and relevant sub-portion.

       The screen display 42 includes a tertiary key expression 50 two-thirds down the screen, which can be selected by a user to navigate to the first sub-portion of
35   the portion entitled "The impact of recruitment on KSM", forming part of the second set of the database. As such, clicking on the tertiary key expression 50,

5   viz. "The impact of Recruitment on KSM", causes screen display 51 to be
activated. It must be appreciated that although in this example, the second set
contains only one portion, all of the titles of the portions of the succeeding sets
will be displayed as tertiary key expressions on each sub-portion of the
database.   Hence, a user will be able to select one of the tertiary key
10   expressions to navigate to the first sub-portion of the portion represented by the
selected tertiary key expressions.

With reference to Figure 3G, screen display 51 displays the title of the relevant
portion, viz. "The impact of Recruitment on KSM 52" and the title 54 of the sub-
15   portion selected, viz. "The capacity to act/decide".   The tertiary key expression
50 is, in effect, a default link which provides a link from a sub-portion in one set
of the database to a sub-portion located in a succeeding set of the database.
With reference to Figure 3H of the drawings, it can be seen that the dialogue
box 48 contains the titles of the portion and the relevant sub-portion from which
20   a link was made via the tertiary key-expression 50. By using a single operation,
in this instance by clicking on the relevant part of the dialogue box, the user can
return to the sub-portion from which the link was made.   Hence, the dialogue
box provides a "dialogue path" which is recorded thus allowing a user to return
to any sub-portion in the database from which a link was made via a primary
25   key expression or a tertiary key expression.

The computer program product includes a feedback component which includes
program instructions which permits any part of the information contained in a
sub-portion or an explanatory note of the database, to be selected by a user
30   and the user's selection to be recorded.

The computer program product is executable on a processor that may be linked
to another processor via a WAN , LAN, intranet or the Internet. The computer
program product may include an electronic mail component for preparing and
35   sending e-mail messages to another processor in said WAN, LAN, intranet or
the Internet. In order to provide feedback on the content of the database, the

5   computer program product includes program instructions which permit a user to
select parts of sub-portions or explanatory notes of the database which are then
recorded in an e-mail message which allows the user to comment on the
selected part. The e-mail message can be sent to a predetermined recipient in
said WAN, LAN, intranet or the Internet so as to provide feedback on the
10   selected text. It will be appreciated that in another embodiment, the computer
program product may be executed on a processor that is linked, via a
telecommunications network, to a cellular telephone for sending so-called SMS
text messages to the cellular telephone.

15   The computer program product includes a monitoring component which
includes program instructions for recording users' selections of primary and
secondary key expressions. The monitoring component includes program
instructions for reporting the recorded users' selections via e-mail or the like, to
a recipient. This provides feedback on the use of the primary and secondary
20   key expressions thereby providing an indication of those sub-portions/portions
of the database which users find most interesting or possibly even least
interesting. The Applicant envisages that in a wide application, monitoring
components may be operable to monitor the use of any part of the forumBook
by any participant, i.e. by a user or a compiler of the database. The content of
25   the database can thus be adjusted accordingly by possibly amplifying certain
information in certain portions/sub-portions or removing information from other.

The Applicant envisages that two or more forumBooks covering different topics
may be linked. More particularly, the Applicant envisages that particular sub-
30   portions of one forumBook may be linked via a primary key expression, to sub-
portions in another forumBook. Further, the Applicant envisages that primary
key expressions may provide links to other databases (not being forumBooks)
or pages of information.

5   The invention extends to an information management product which includes as components thereof, the database and the computer program product described hereinabove.